AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1 - 3. (Canceled)

4. (Currently Amended) ~~A pulley as set forth in claim 3,~~ A pulley comprising:

a hub configured to be mountable on a driving shaft,

a rim with an outer circumferential surface that defines at least one V-groove,

a driving connection between the hub and rim, enabling said hub and rim to rotate in unison, and

a drive assembly extending from the hub and operable to configure the rim between a circular profile and a non-circular profile;

wherein said driving connection comprises at least two pairs of spaced diametrically opposed sleeves and said drive assembly comprises an actuator mounted within each of said pair of sleeves;

wherein said driving connection comprises two spaced diametrically opposed sleeves arranged along a major axis and along a minor axis and said actuators are arranged to extend along the major axis and contract along the minor axis, presenting an oval non-circular profile;

wherein said hub has at least one pair of brushes electrically connected to said actuators, said brushes positioned to engage with a pair of voltage rails transferring electrical energy to energize said actuators.

5. (Original) A pulley as set forth in claim 4, wherein said actuator is a shape memory alloy actuator.

6. (Original) A pulley as set forth in claim 5, wherein said rim is molded from an organic resin material.

7. (Currently Amended) ~~A pulley as set forth in claim 1~~ A pulley comprising:

a hub configured to be mountable on a driving shaft,

a rim with an outer circumferential surface that defines at least one V-groove,

a driving connection between the hub and rim, enabling said hub and rim to rotate in unison, and

a drive assembly extending from the hub and operable to configure the rim between a circular profile and a non-circular profile;

wherein said rim has at least a pair of diametrically opposed openings in said outer circumferential surface and drive assembly is a pair of diametrically opposed piezoelectric stacks operable to extend through said openings presenting said non-circular profile.

8. (Currently Amended) ~~A pulley as set forth in claim 1~~ A pulley comprising:

a hub configured to be mountable on a driving shaft,

a rim with an outer circumferential surface that defines at least one V-groove,

a driving connection between the hub and rim, enabling said hub and rim to rotate in unison, and

a drive assembly extending from the hub and operable to configure the rim between a circular profile and a non-circular profile;

wherein said rim has at least a pair of diametrically opposed openings in said outer circumferential surface and said drive assembly is a pair of diametrically opposed inertia elements operable to extend through said openings presenting said non-circular profile.

9. (Original) A pulley as set forth in claim 8, wherein said inertial elements are pivotally mounted on said pulley and each inertia element has a spring biasing said inertia element to an extended position, configuring said rim in said non-circular profile, said biasing element having a mass positioned relative to said spring and pivot enabling said inertia element to move from said extended position to a retracted position as said pulley increases in rotational speed.

10. (Canceled)

11. (Currently Amended) ~~A pulley as set forth in claim 10,~~ A pulley comprising:

a hub configured to be mountable on a driving shaft,

a rim with an outer circumferential surface that defines at least one V-groove,

a driving connection between the hub and rim, enabling said hub and rim to rotate in unison, and

a drive assembly extending from the hub and operable to configure the rim between a circular profile and a non-circular profile;

wherein said drive assembly is a hydraulic cylinder communicating with a source of oil pressure, the hydraulic cylinder including a piston that reciprocates along an axis that is parallel to a rotational axis of the pulley

wherein said rim has a generally non-circular profile, said pulley further comprises a spreader operably engaging between said hydraulic cylinder and said rim, said hydraulic cylinder urging said spreader to engage said rim urging said rim towards said circular profile as said oil pressure increases.

12. (Original) A pulley as set forth in claim 11, wherein said hydraulic cylinder includes a spring restricting movement of said hydraulic cylinder until said oil pressure reaches a predetermined value.

13. (Original) A pulley as set forth in claim 11, wherein said source of oil pressure is an engine on which said pulley is mounted.

14. (Original) A pulley as set forth in claim 13, wherein said predetermined value is referenced when said engine operates at about 750 RPM.

15. (Previously Presented) A pulley comprising:

a hub configured to be mountable on a driving shaft, and

a rim drivingly connected to the hub, said rim having a non-circular profile and said hub having means for orienting said hub in a predetermined position relative to said driving shaft;

wherein said hub orienting means comprises a reference mark on an external surface of the pulley, wherein the reference mark is not configured to be engaged by an element that is fixed to the driving shaft.

16. (Original) A pulley as set forth in claim 15 wherein said non-circular profile has a major axis and said predetermined position has the major axis between 90° to 120° from a reference direction, being a direction of the angle of wrap bisection, taken in the direction of rotation of the pulley.

17. (Previously Presented) A method for operating an engine having an endless drive system and a configurable crankshaft pulley, the method comprising:

providing an engine with a crankshaft pulley coupled for rotation with a crankshaft, the crankshaft having a configurable profile;

altering the profile of the crankshaft pulley in response to a rotational speed of the crankshaft between a circular and a noncircular profile to generate a periodically occurring counteracting torque in the endless drive.

18. (Previously Presented) A method as set forth in claim 17, further comprising:

sensing predetermined engine conditions;

determining from said engine conditions whether torque loads in the endless drive are in excess or about to be in excess of a predetermined value; and

responsively altering the profile of the crankshaft pulley.

19. (Original) A method as set forth in claim 18, wherein said predetermined engine characteristics include engine speed and tension in the endless drive.